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ABSTRACT

A study of the amount of retention after 1 year of students who had participated in a Title-I remedial reading program is reported. The reading center program was comprised of the comprehensive diagnosis of learning problems followed by a reading skills program on a one-to-one relationship with a reading specialist. Psychological aspects were taken into consideration by helping the students build a positive self-image. Subjects were 47 experimental-group fourth graders who attended the reading center and 48 students with Otis IQ scores similar to the experimental group and who were designated in need of remedial reading instruction. Both groups were administered the Gates Word Recognition Test and the Gates Paragraph Reading Test before and after the instructional year. The experimental group made significantly higher gains than the control group in both word recognition and paragraph reading. One year later, 37 students remained in the experimental group and 41 in the control group. The results of the Comprehensive Tests of Basic Skills, administered to all fifth- and sixth-year students, showed that the experimental group was still significantly higher than the control group in both word recognition and paragraph reading. (DH)

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FOLLOW-UP STUDY FOR RETENTION OF SKILLS IMPROVED BY SPECIAL REMEDIAL READING INSTRUCTION AT THE READING CENTER DURING 1968-69

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School Board of Broward County, Florida
Benjamin C. Willis, Superintendent

Research Department
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Submitted to

The School Board of Broward County, Florida
Benjamin C. Willis, Superintendent

By the

Research Department

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FOREWORD

Continuous evaluations of the Reading Center have been conducted by the Research Department for the School Board of Broward County, Florida. Former evaluations have established that (1) the longer students remained in the Center, the more improvement they showed in vocabulary and comprehension (1967-68 study); and (2) that students enrolled in the Center made significantly greater progress than similar students (control group) who did not participate in the remedial reading program (1968-69 study).

The purpose of this year's study was to find out if students who attended the Center during 1968-69 would maintain the superior gain in achievement they had made over the control group during the treatment period of seven and one-half months.

Thomas M. Banks of the Research Department is the author of this study. The manuscript was prepared by Eve Thode and Marjorie Strack.

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FOLLOW-UP STUDY FOR RETENTION OF SKILLS IMPROVED BY SPECIAL REMEDIAL READING INSTRUCTION AT THE READING CENTER DURING 1968-69

Introduction

The Reading Center is a part of the reading program in the elementary schools of Broward County. It was designed to provide special services for disadvantaged children, using Title I appropriations.

During the 1968-69 school year the staff consisted of a director, a clinician, a graphics specialist, a teacher co-ordinator and six teachers who worked as a unit to offer a program at the Reading Center. The Center program was specifically designed to help the student who was a disabled reader, to provide a center for teachers for observing special methods and materials for teaching remedial reading, to provide in-service training for teachers of reading, and to provide situations in which research in the area of the language arts could be conducted.

From an evaluation of the Reading Center for 1968-69, students appeared to benefit from the special remedial reading program. The enrollees of the Center made more progress in word recognition and paragraph reading than did a comparable group of students who did not attend the Center. Since the remedial reading instruction brought about significant changes in reading, it may be of interest to review the procedures and treatment used by the Center from the time a student was referred.

Selection and Treatment

A student was usually referred to the Reading Center for diagnosis of deficiencies and recommended for the remedial reading program through one of the following procedures:

1. The classroom teacher identified a student and referred him to the county reading teacher who performed an initial screening. Students that met the criteria of having an average IQ and achieving below grade level in reading were then referred to the Reading Center. Students who were accepted at the Center had to be free of severe learning handicaps. Slow learners who might not benefit from remedial reading were referred back to the classroom with an accompanying program.

2. The principal referred special cases for diagnosis and made recommendations in instances wherein the criteria for enrollment were not met.

3. Other agencies, such as the Diagnostic Center, also referred students as the result of their evaluations.

Students accepted for diagnosis were generally scheduled to attend the same day and hour as other students from their school who were already enrolled in the Reading Center. Students referred to the Center were usually admitted, having been screened twice before the diagnosis for their deficiencies was begun. A complete diagnosis normally required four-hours time, which was accomplished in two or three visits to the Reading Center and consisted of the following measures:

1. Measurement of cognitive processes
2. Measurement of visual memory and visuoconstructive abilities
3. Auditory perception
4. Oral reading test
5. Silent reading
6. Informal diagnostic skills test

Special materials and methods which were selected on an individual basis, relative to the needs of the students, were used with the students

who attended the Reading Center. Attention was directed to the way in which the individual student learned best--by visual, auditory, or kinesthetic methods, or a combination of all three--and the materials were selected accordingly. Emphasis was placed on the development of word attack skills and the building of a background for the acquisition of speaking and reading vocabulary. Special work was carried on in the areas of auditory and visual perception.

The student began intensive reading instruction in a one-to-one relationship with a reading specialist. After he had attained a designated level, he joined another student for remedial instruction. At a later date when he reached another designated level, he entered a small group of four or five students. Much of the program for the enrichment sessions was planned to involve larger groups.

Reading Skills Program

Through a strong sound-symbol association program the student at the Center learned to blend phonetic elements together in independent word attack. Through systematic presentation, he learned to pronounce, recognize, read in context, and write phonetic short-vowel words with fair accuracy and speed. He was then introduced to long-vowel patterns until there was evidence of fair mastery. The other vowel sounds were then introduced and taught until there was evidence of sufficient mastery.

Attention to word structure was given as soon as the student showed sufficient mastery of sound blending of words that have such endings as s, ed, ing, er, est, y, and ly. Syllable division, prefixes, and suffixes were usually introduced after most of the phonics elements had been taught.

The individual student's needs might have altered this order of presentation of word attack skills.

Comprehension skills were emphasized during all stages of remediation. Regardless of the simplicity of the reading material the student was given exercises and practice in understanding word meanings, selecting the main idea, sequencing ideas, getting the facts, and noting details and other skills of interpretation.

Most students enrolled in the Reading Center, by the very nature of their reading disabilities and their past experiences of failure and frustrations, were not likely to view themselves in a very positive manner. They often had feelings of not being fully liked, wanted, acceptable, able, or appreciated. Many had feelings of inadequacy because they felt they lacked the ability to meet the expectations that were held for them by the significant other persons in their world.

From the moment each student entered the Reading Center, the program was designed so that he would begin to gain a more positive view of himself. All of the related reading experiences were presented with the idea of maximizing success for each individual learner. The complete environment (the facility, the staff, teaching materials, activities, and selected experiences) attempted to enable each child to become a more positive self.

Each staff member was made cognizant of each student's learning and behavioral difficulties. Every effort was made to establish a relationship with the child that was warm, friendly, supportive, and understanding. The climate at the Reading Center communicated to the child that he was wanted, accepted, liked and very important. The general atmosphere was planned to

be informal and friendly so that the student would feel relaxed, contented, and free to be himself. To improve his feeling of worth, the student's art work and his personal stories, accompanied by his photograph, were displayed throughout the building.

At the Reading Center the threat of competition with other students was minimized. Cooperation and self-direction were stressed and each student was encouraged to feel free to make mistakes, for through errors he learned better ways of doing things. Tasks for the student were planned so that he began to feel that work and learning could be a satisfying and valuable pursuit.

The materials, activities, and experiences were presented through various methods and media that were stimulating and inviting, many of which were displayed at all times in the teaching rooms or learning stations.

Students from disadvantaged elementary schools, were selected to attend the Reading Center during 1968-69 and had classes scheduled every other day. They spent ninety (90) minutes in instruction: forty-five (45) minutes in an intensive reading program and the remaining forty-five (45) minutes in enrichment activities which included the building of basic concepts in social studies and science, individual pursuits related to the language arts, experiences to promote creativity, and miscellaneous activities designed to meet individual needs. Free transportation was provided in school buses to and from the Center.

Purpose of the Study

Last year's Reading Center evaluation recommended that a follow-up study for retention should be conducted. The main purpose of this "retention" study was to find out if students who attended the Center during 1968-69 would retain the superior gain in achievement they had made over their control group during the treatment period of seven and one-half months.

Procedures

During the 1968-69 school year, forty-seven enrollees at the Reading Center participated as subjects for an experimental group. This group was comprised mostly of fourth-year students from nineteen (19) different schools. A second group of forty-eight students with Otis IQ scores similar to those of the experimental group and identified as needing remedial instruction in reading were selected as subjects for the control group. The control group participated only in those reading activities which their teachers normally provided in the regular classroom. Each student was given different forms of the Gates Word Recognition Test and the Gates Paragraph Reading Test as pre- and posttests. Utilizing an analysis of covariance technique, comparisons were made between the experimental and control groups of students for differences in achievement or gains made during the treatment period. The experimental group made significantly greater gains in both Word Recognition and Paragraph Reading (see Table 1). It was concluded, on the basis of this and previous studies, that the remedial reading instruction given at the Reading Center was responsible for these positive results.

TABLE 1

ANALYSIS OF THE RESULTS OF THE POSTTESTS
OF GATES ADVANCED PRIMARY WORD RECOGNITION
AND PARAGRAPH READING TESTS
1968-69

	Experimental Group (Reading Center)	Control Group (Classroom)
Number of Students	47	48
Otis I.Q. Mean	94.15	91.13
Word Recognition:		
Pretest Mean	2.880	3.313
Adjusted Posttest Mean	4.310	3.391
Level of Significance	P<.001	
Paragraph Reading:		
Pretest Mean	2.861	3.460
Adjusted Posttest Mean	4.079	3.212
Level of Significance	P<.001	

One year after dismissal from the Reading Center, all fifth and sixth-year students were administered the Comprehensive Tests of Basic Skills (CTBS) by the County Testing Department. Scores on the vocabulary and comprehension sections of the CTBS were used as the retention test scores for comparisons of achievement of the two groups.

Due to mobility of students out of the county or failure to take the CTBS, some of the sample was lost for the follow-up study. Forty-one and thirty-seven students remained in the control and experimental groups respectively. In order to adjust for initial differences between the two groups in pretest reading scores and IQ scores, an analysis of covariance technique was used. The initial differences were statistically controlled,

or the IQ and pretest scores were equated, in order to more fairly compare the groups.

Results

The group of students who had attended the Reading Center a year earlier made an adjusted retention mean score of 4.34 on the vocabulary test, while the control group made a mean score of 3.15 (see Table 2). This difference in means for vocabulary achievement is statistically significant at the .001 level of confidence (see Appendix A). The experimental group also made an adjusted retention mean score of 4.23 on the comprehension test, which is significantly greater than the mean score of 3.14 made by the control group at the .001 level of confidence (see Appendix B).

TABLE 2

ANALYSIS OF THE RESULTS OF THE RETENTION TESTS
(COMPREHENSIVE TEST OF BASIC SKILLS)
FOR BOTH THE EXPERIMENTAL AND CONTROL GROUPS

	Experimental Group	Control Group
Number of Students	37	41
Otis I.Q. Mean	93.65	90.44
Word Recognition (Vocabulary):		
Pretest Mean (Gates)	2.91	3.31
Adjusted Retention Mean (CTBS)	4.34	3.15
Level of Significance	P<.001	
Paragraph Reading (Comprehension):		
Pretest Mean (Gates)	2.87	3.45
Adjusted Retention Mean (CTBS)	4.23	3.14
Level of significance	P<.001	

One year after being dismissed from the Reading Center, the experimental group still maintained a significantly higher achievement than did the control group.

Discussion

The overall findings are highly significant in that it was found that the program produced long-run benefits. When results were examined in terms of changes in unadjusted grade-equivalent scores, it was noted that both groups made slightly lower grade-equivalent scores on the retention test as compared to the posttest at the end of the treatment. In the case of the experimental group, some of this loss might be explained by practice effects. Too, the retention test (CTBS) is a test of somewhat greater difficulty than the Gates Advanced Primary Reading Tests. Comparisons of grade-equivalent scores for these two tests could be misleading. Examination of group means for the seventy-eight children included in the follow-up study also revealed that the pre- and posttest scores of these groups were not notably changed from those of the ninety-four children in the original study. In other words, attrition did not appear to introduce systematic biases in these data.

Conclusion

The important finding of this study is the fact that the experimental group's mean vocabulary and comprehension test scores are still significantly greater than the control group's one year after treatment. The higher achievement score was not just a temporary improvement but held up for one full year when compared with the control group.

APPENDIX A

ANALYSIS OF COVARIANCE FOR DIFFERENCE IN
ADJUSTED VOCABULARY RETENTION TEST SCORES (CTBS)
BETWEEN EXPERIMENTAL AND CONTROL GROUPS

Source of Variation	d.f.	Sum of Squares	Mean Squares	F	P Less Than
Within Groups	73	6450.637	88.365		
Regression	3	3069.793	1023.264	11.580	.001
Treatment Between Groups	1	2146.492	2146.492	24.291	.001

APPENDIX B

ANALYSIS OF COVARIANCE FOR DIFFERENCE IN
ADJUSTED COMPREHENSION RETENTION TEST SCORES (CTBS)
BETWEEN EXPERIMENTAL AND CONTROL GROUPS

Source of Variation	d.f.	Sum of Squares	Mean Squares	F	P Less Than
Within Groups	73	7127.227	97.633		
Regression	3	5077.176	1692.392	17.334	.001
Treatment Between Groups	1	1809.207	1809.207	18.531	.001